

# EXPANDABLE BORE INJECTION NEEDLE

## Abstract

The present invention is a trocar/cannula assembly that is capable of delivering large-diameter objects/fluids into a body cavity interior, while minimizing the puncture footprint left after insertion.

Generally, the invention could be a composite needle having a composite wall forming a trocar shaft with at least two rigid elements, and flexible material therebetween, which together at least partially define a trocar bore having a diameter, and a puncture tip. Together these elements enable the composite wall to flex outward so as to increase the diameter of the trocar bore. Additionally, the present invention could also be described as an expandable bore trocar/cannula that is made up of an expandable cannula body having an interior channel that is capable of flexing radially outward, and a trocar tip associated with the cannula body to facilitate the insertion of the trocar/cannula into a patient.

Once the trocar/cannula is inserted, it may be flexed outward, and a medical implant may be inserted into the interior channel of the cannula body, and, in turn, into a body cavity of the patient.